INDEX TO VOLUME 83

Names of contributors are printed in CAPITALS. Names of new genera, species, varieties, forms and combinations are printed in **bold face**. Numbers in *italic* refer to pages on which the name is listed as a synonym. Numbers in **bold face** refer to pages on which the name is accompanied by a description or illustration.

Abrus precatorius, 283
Acer, 209; *Negundo*, 209; *rubrum*, 383; *saccharum*, 209, 210, 215, 264
Acrocomia, 306
ADELSON, LIONEL M.: Spectrophotometric studies of *Polyporus cinnabarinus* and *Polyporus sanguineus*, 136
Adesmia punctata, 295
Adiantum pedatum, 438
Aeginetia, 167, 168, 169; *indica*, 167, 168
Aegopogon, 232
Aeschynomene, 233; *abyssinica*, 233
Aesculus, 209
Agrostema, 151
Agrostemma, 151
Agrostis, 264, 336
AHMAD, K.: A comparative study of the effect of corn (*Zea Mays*) steep liquor Bengal gram (Chick pea or *Cicer arietinum*) steep liquor and rice (*Oryza sativa*) steep liquor on the production of penicillin on surface culture, 30
Aira caryophyllea, 336
Alnus glutinosa, 383
Aloe, 370
Alopecurus, 336; *aequalis*, 336; *pratensis*, 336
Anacharis, 362, 368
ANDERSON, EDGAR: (Review), 441
ANDRESEN, JOHN W.: Bartram oak in New Brunswick, New Jersey, 171; (Review), 312; A large swamp white oak of the lower Raritan flood plain, 382; (Review), 441
Andropogon, 183, 190, 191; *distachyum*, 183; *distachyus*, 183, 184, 185, 188, 190, 191; *Gerardi*, 172
Angiopsora, 222; **africana**, **221**; **aurea**, **221**; *clemensiae*, 221; *compressa*, 221; **digitariae**, 221, **222**; *hansfordii*, 221; *phakopsoroides*, 221
Anthoxanthum, 433, 434; *odoratum*, 336
Aphanochaete, 147
Aralia nudicaulis, 172
Aristida oligantha, 172
Arrhenatherum elatius, 336
Asclepias sullivantii, 345
Ascobolus, 35, 55; *furfuraceus*, 55; *stercorarius*, 35, 39, 55, 56, 59
Aseptic studies on metabolism of nitrogenous compounds in plants, 421
Asimina triloba, 209
Aspergillus, 94
Asplenium, 274, 438; *platyneuron*, 438; *trichomanes*, 438
Aster macrophyllus, 172
Astrebla, 232
Athyrium, 438; *filix-femina*, 438; *thelypterioides*, 438; *thelypterioides* f. *acrostichoides*, 438
Avena, 336, 421, 423, 426; *fatua*, 336
Bacillus, 333; *subtilis*, 31
BACKUS, M. P.: Cytological studies on *Penicillium chrysogenum* Thom., 93
BAILEY, PAUL C.: Some notes on the influence of various buffer salts upon the rate of mitosis in root tips of *Trillium sessile* L., 410
Baptisia tinctoria, 173
Bartram oak in New Brunswick, New Jersey, 171
Bassia, 172; *hyssopifolia*, 172
Beckmannia, 336; *syzigachne*, 336
BERGER, C. A.: The cytology of *Xanthisma texanum* D.C. IV. Megasporogenesis and embryo sac formation, pollen mitosis and embryo formation, 428; (Review), 440
Betula, 209; *nigra*, 383
Bewsia biflora, 226
Biological transmission of plant viruses by insect vectors, 234
BISTIS, GEORGE: Studies on the genetics of *Ascobolus stercorarius*, 35
BLASDELL, ROBERT F.: A comparative study of Hawaiian species of the fern genus *Doodia*, 62
Blastocladiella, 220
Bombardia lunata, 47, 59
Bombax angulicarpum, 283
Book Reviews, 78, 173, 237, 310, 386, 440, 441, 442
Botanical bibliographies: classification, form, arrangement and use, 377
Botanical literature, Index to American, 84, 174, 241, 315, 391, 443
Botanical terms, Material for a dictionary of, IV, 342

Botrychium, 262, 264, 270, 272, 275, 436; *daucifolium*, 275; *dissectum*, 436; *dissectum* f. *elongatum*, 436; *dissectum* f. *oneidense*, 437; *lanceolatum* subsp. *angustisegmentum*, 278; *lanuginosum*, 275; *lunaria*, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 369; *lunaria* f. *gracile*, 263; *lunaria* f. *onondagense*, 261, 264; *lunaria* var. *typicum*, 263; *matricariaefolium*, 263, 264, 275, 276, 278, 437; *matricariaefolium* subsp. *hesperium; minganense*, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279; *multifidum*, 264, 265, 278; *multifidum* subsp. *californicum*, 278; *multifidum* subsp. *coulteri*, 278; *multifidum* var. *intermedium*, 437; *onondagense*, 261, 262, 263; *simplex*, 265, 274, 277, 278; *simplex* var. *compositum* 277; *simplex* var. *tenebrosum*, 263; *virginianum*, 264, 437

BOYDEN, ALAN: (Review), 81

Brachiaria brizantha, 221; *decumbens*, 221, 229

BROTHER LEON (JOSEPH SYLVESTRE SAUGET): (Obituary), 305

BUELL, MURRAY F.: *Sporobolus cryptandrus* (Torr.) A. Gray in the New Jersey Pine Barrens, 439

BURKHOLDER, PAUL B.: Studies on the nutritive value of *Spartina* grass growing in the marsh areas of coastal Georgia, 327

BUTLER, ELMER G.: Biological specificity and growth (Review), 80

Caespitella, 142, 144; *Pascheri*, 143, 147

Calamagrostis, 336

Caltha palustris, 345

Calyptrogyne, 306

CAMPBELL, T. H.: Cytological studies on *Penicillium chrysogenum* Thom., 93

Camptosorus, 438; *rhizophyllus*, 438

Cantharellus cinnabarinus, 139

Carya, 209, 211, 215; *illinoensis*, 209

Cassia fasciculata, 173

Castanea dentata, 78

CELARIER, ROBERT P.: Cytology of *Andropogon distachyus* L., 183

Celtis occidentalis, 209, 210, 215

Cercis canadensis, 209

Chaetophora, 141, 142, 145, 146, 147, 149

Cheilanthes, 438; *lanosa*, 438

Chemical strains of the *Parmelia Conspersa-Stenophylla* group in South Central United States, 218

Chlamydomonas, 146

Chloris, 232

Chlorosarcina, 142

Chlorosphaera, 142, 146

Christisonia albida, 168

Chromocrea spinulosa, 59

Chrysopogon, 229

Cicer arietinum, 30

Cicuta, 297; *douglasii*, 296; *mackenzieana*, 296

Cinna, 336; *arundinacea*, 336; *latifolia*, 336

Cissus quadrangularis, 283

Cistanche, 167, 169; *tinctoria*, 157

Classification and relationships of *Cucurbita mixta*, Pang., 253

Claytonia megarrhiza, 295; *virginica*, 296

Clematis ochreleuca, 385

Coccothrinax, 306

Comarium palustre, 298

Combretum micranthum, 283; *tomentosum*, 283

Commelina, 107, 108, 109, 110, 111; *benghalensis*, 110; *coelestis*, 110; *communis*, 110; *crispa*, 107; *erecta*, 107; *erecta* var. *crispa fide*, 107; *hirtella*, 110; *nudiflora*, 110

Commelinantia, 107, 108, 109, 110, 111; *anomale*, 107, 108, 109, 110, 111; *pringlei*, 107, 108, 109, 111

Commelinantia (*Commelineae*): An evaluation of its generic status, 107

Conferva, 141

Coniselinum, 297; *chinensis*, 296

CONNORS, CHARLES H.: (Review), 173, 237

Copernicia, 306, 309, 310; *cerifera*, 309

Cornus, 209

Corynebacterium michiganense, 139

Corynephorus canescens, 336

Crataegus, 209

CRONQUIST, ARTHUR: (Review), 238; Vascular plants of the Pacific Northwest (Review), 310

Cucurbita, 254, 256, 259; *argyrosperma*, 253; *ficifolia*, 256, 259; *maxima*, 253, 256, 257, 258, 259; *mixta*, 253, 254, 255, 256, 257, 258; *mixta cyanoperizona*, 253; *mixta stenosperma*, 253; *moschata*, 253, 256, 257, 258, 259; *pepo*, 256, 257, 259

CUMMINS, GEORGE B.: Description of tropical rusts—VIII, 221

CURTIS, J. T.: Plant ecology workbook (Review), 390

CUTLER, HUGH C.: *Cucurbita mixta* Pang. Its classification and relationships, 253

Cyperus filculmis var. *macilentus*, 439

Cystopteris, 274, 437; *dickieana*, 264; *fragilis*, 437
Cytological studies on *Penicillium chrysogenum*, 93
Cytology of *Andropogon distachyus*, 183
Dactyloctenium, 232
DANSEREAU, PIERRE: Studies in Potentillae of high latitudes and altitudes. II. Central Baffin Island populations, 113
Danthonia spicata, 336
DARLINGTON, C. D.: Chromosome atlas of flowering plants (Review), 440; Chromosome botany (Review), 440
Datura, 27, 29
Dennstaedtia, 438; *punctilobula*, 438
Deschampsia caespitosa, 336; *flexuosa*, 439
Desmodium perplexum, 173
Dichapetalum Spruceanum, 338
Dicheirinia, 223
Dictionary of botanical terms—IV. Terms to describe apices, 342
Digitaria chinensis, 222; *formosanum*, 222
Dionoea muscipula, 78
Diorchidium (*Puccinia*) *brachiariae*, 228
Distichlis, 3, 4
DOBZHANSKY, THEODOSIUS: Evolution, Genetics and Man (Review), 441
Doodia, 62, 65; *caudata*, 65; *kunthiana*, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71; *lyoni*, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71; *media*, 65
DORE, WILLIAM G.: Some grass genera with liquid endosperm, 335
Dothidea collecta, 409
Draparnaldia, 142, 143, 145, 146, 147, 148, 149; *acuta*, 145; *glomerata*, 145; *Macrocladia*, 145; *mutabilis*, 145; *mutabilis* f. *infantilis*, 145; *mutabilis* f. *opposita*, 145, 146; *plumosa*, 145
DRECHSLER, CHARLES: Production of zoospores from germinating oospores of *Pythium mamillatum* Meurs, 196
Dryopteris, 274, 437; *boottii*, 437; *cristata*, 437; *cristata* var. *Clintoniana*, 437; *goldiana*, 437; *hexagonoptera*, 437; *marginalis*, 437; *noveboracensis*, 437; *phegopteris*, 437; *spinulosa*, 437; *thelyteris*, 438
DUMAN, MAXIMILIAN G.: Three new North American varieties of *Kobresia*, 192
DUSTAN, ALICE L.: Landscaping your own home (Review), 237
Echites caudata, 286
Elyna, 192
Elyonurus, 190
Embryology of *Striga orobanchoides* Benth. and *Striga euphrasioides* Benth., a contribution to, 154
Entocladia, 143
Epiphyllous flowers, 338
Equisetum, 436; *arvense*, 436; *arvense* f. *ramulosum*, 436; *fluviatile*, 436; *hyemale* var. *affine*, 436; *scirpoides*, 436; *sylvaticum* var. *Pauciramosum* f. *multiramosum*, 436
Eragrostis capillaris, 173
Escherichia, 333; *coli*, 331
Eu-Andropogon, 190, 191
Eubotrychium, 265
Eupatorium serotinum, 172; *sessilifolium*, 173
Euphorbia cyparissias, 264; *nivulia*, 154
EVANS, RICHARD I.: (Review), 311
Evolution in the isogamous, filamentous chlorophyceae and their relation to the classification of the chlorophyceae, 141
FEELEY, E. J.: The cytology of *Xanthisma texanum* D.C. IV. Megasporogenesis and embryo sac formation, pollen mitosis and embryo formation, 428
FELL, EGBERT W.: Flora of Winnebago County, Illinois (Review), 313
Field trip reports, 78, 172, 385, 439
Fijian species of *Peperomia*, 300
FOREST, H. S.: Some aspects in the isogamous, filamentous Chlorophyceae and their relation to the classification of the Chlorophyceae, 141
Forest seed directory (Review), 441
FOSBERG, F. R.: (Review), 79
Fraxinus, 209, 210, 215; *Fraxinus americana*, 209, 383; *quadrangulata*, 209
Frommea, 224
Gaylussacia baccata, 172
Geminella, 146, 147, 149
Generic names *Lysichiton* and *Lysichitum*, a comment on, 151
Generic status of *Commelinantia*, an evaluation, 107
Gentiana autumnalis, 78
Geometrical aspects of cell shape, 355
Gerardia flava, 173
GILKEY, HELEN M.: (Review), 310
Ginkgo biloba, 308
Gleditsia triacanthos, 209, 383
Gonypetalum tessmannii, 338, 339
GOOD, DOROTHY: Geography of the Northlands (Review), 78
Grass genera with liquid endosperm, 335
GRESSITT, J. LINSLEY: Insects of *Micronesia* (Review), 79
Gymnocladus dioica, 209

HALE, JR. MASON E.: Chemical strains of the *Parmelia Conspersa-Stenophylla* group in South Central United States, 218
Hapalophragmium **deightonii, 222,** 224; *millettiae,* 222; *millettiae-rhodanthae,* 222
Harveya, 168
HAUPT, A. W.: An introduction to botany (Review), 312
HEISER, JR., CHARLES B.: (Review), 83
Helianthemum canadense, 173
Helianthus divaricatus, 173
Helictotrichcon, 336; *hookeri,* 335; *pratense,* 335
Helwingia japonica, 341
Hemithrinax, 306
Hieracium, 354
Hierochloë odorata, 336
HIRES, CLARA S.: Tetrad analysis through sectioned models, 72
Holcus, 336; *lanatus,* 336
Hosts and species of *Physoderma,* 292
HOWELL, D. L.: Composition of pre-settlement forests in three counties of Missouri, 207
Hudsonia tomentosa, 385
HULTEN, ERIC: A comment on the generic names of *Lysichiton* and *Lysichitum,* 151
HUTTLESTON, DONALD G.: (Review), 82
Hymenocarpus, 151
Hyobanche, 168
Hyparrhenia hirta, 227; *rufa,* 226
Hypericum, 265
Index to American botanical literature, 84, 174, 241, 315, 391, 443
ILTIS, HUGH H.: (Review), 314
Ipomoea panaurata, 78
Ischaemum ciliare, 222
ISLAM, M. F.: A comparative study of the effect of corn (*Zea mays*) steep liquor Bengal gram (chick pea or *Cicer arietinum*) steep liquor and rice (*Oryza sativa*) steep liquor on the production of penicillin on surface culture, 30
JOHNSON, FRANK H.: Luminescence of biological systems (Review), 313
JOHNSON, M. A.: (Review), 240
JOHNSON JR., TERRY W.: The genus *Achlya*: morphology and taxonomy (Review), 389
Jouvea, 1, 2, 3, 4; *pilosa,* 1, 2, 3; *straminea,* 3
Juglans, 209, 210; *Juglans cinerea,* 209; *nigra,* 209, 383
Juniperus virginiana, 209
KARLING, JOHN S.: Unrecorded hosts and species of *Physoderma,* 292; New and unidentified species of *Synchytrium,* II., 415
KAVANAGH, F.: (Review), 313
KIMBLE, G. H. T.: Geography of the Northlands (Review), 78
Kobresia hyperborea, 192; *hyperborea* var. **alaskana, 192, 194,** 195; *hyperborea* var. *hyperborea,* 192, 194, 195; *hyperborea* var. **lepagei, 192, 194,** 195; *macrocarpa,* 192; *myosuroides,* 129; *schoenoides,* 192, 195; *simpliciuscula,* 194; *simpliciuscula* var. **americana, 192, 194,** 195
Koeleria, 336; *phleoides,* 335; *pyramidata,* 335; *villosa,* 335
Krigia virginica, 385
KUCERA, C. L.: Composition of pre-settlement forests in three counties of Missouri, 207
Lactobacillus, 333; *leichmannii,* 331
LANFRANCO, GUIDO G.: Guide to the flora of Malta (Review), 388
Lathraea clandestina, 168
LEHR, J. HARRY: An annotated preliminary catalogue of the vascular flora of Rockland County, New York, 435
Lemna, 426, 427; *major,* 426; *minor,* 421, 422, 423, 426
Lepidagathis Hamiltoniana, 154
Leptosira, 143
Leptosphaeria acuta, 409; *lemaneae,* 409
Lespedeza hirta, 173; *intermedia,* 173; *virginica,* 173
LEWIS, HARLAN: The genus *Clarkia* (Review), 82
LEWIS, MARGARET ENSIGN: The genus *Clarkia* (Review), 82
Limnodea, 336; *arkansana* 335, 336
Lingusticum grayi, 292; *simulans,* 293
Liparis, 264
Liriodendron, 352; *tulipifera,* 354
Lophira alata-Parkia, 287
LORD, LOIS P.: The morphological and cytological distinctness of *Botrychium minganense* and *B. lunaria* in Michigan, 261
Lotus corniculatus, 295
Loudetia arundinacea, 223; *kagerensis,* 223; *superba,* 227
LÖVE, ASKELL: (Review), 440
Lycopersicon esculentum, 196
Lycopodium, 436; *carolinianum,* 78; *clavatum* var. *megastachyon,* 436; *complanatum* var. *flabelliforme,* 436; *lucidulum,* 436; *obscurum,* 436
Lygodium palmatum, 78
Lysichiton, 151, 152; *camtschatcense,* 151
Lysichitum, 151, 152

Lysimachia quadrifolia, 173
MACHLIS, LEONARD: Plants in action: A laboratory manual of plant physiology (Review), 442
Manilkara multinervis, 283
MARAMOROSCH, KARL: Biological transmission of plant viruses by insect vectors, 234; (Review), 388
MATHEWS', F. SCHUYLER: Field book of American wild flowers (Review), 81
MCCORMICK, JACK: Botanical bibliographies: classification, form, arrangement and use, 377; *Sporobolus cryptandrus* (Torr.) A. Gray in the New Jersey Pine Barrens, 439
Medicago arabica, 294, 295; *denticulata*, 295; *falcata*, 295; *rotata*, 295; *sativa*, 295
Medical research: a mid-century survey (Review), 386
Melampsora, 222; *syntherismae*, 222
Microchloa, 232
Microsynchytrium, 419
Millettia barterii, 222
Mimulus, 265
MITCHELL, HERSCHEL K.: Genetics and metabolism (Review), 81
MONACHINO, JOSEPH: The sarmentogeniferous variety of *Strophanthus sarmentosus*, 281
Morphological and cytological distinctness of *Botrychium minganense* and *B. lunaria* in Michigan, 261
Morus rubra, 209
Muellerella, 403, 407, 408; *haplospora*, 407; *lopadii*, 407; **nigra, 403, 404,** 405, 408; *polyspora* var. *hospitans*, 407; *thallophila*, 407
Muellerella, A new species of and its development, 403
MUENSCHER, W. C.: Garden spice and wild herbs (Review), 82
Muhlenbergia, 232, 336
Myrica pensylvanica, 172
Myriophyllum, 6, 10, 14, 15; *spicatum*, 5, 7, 8, 11, 12, 13, 14, 15, 16; *spicatum* subsp. *exalbescens*, 5, 15; verticillatum, 13, 14, 15
Nasella pubiflora, 231
Nasturtium amphibium, 297
NELSON, ERICH: Gesetzmässigkeiten der Gestaltwandlung im Blütenbereich Ihre Bedeutung für das Problem der Evolution (Review), 238
Neurospora, 46, 427; *crassa*, 39, 59; *sitophila*, 39, 47
NICKELL L. G.: Aseptic studies on metabolism of nitrogenous compounds in plants, 421
Nitrogenous compounds in plants, aseptic studies on the metabolism of, 421
NORSTOG, KNUT J.: The growth of barley embryos on coconut milk media, 27
Notes, 240, 314, 390, 442
Notosciadium pampicola, 294
Nutritive value of *Spartina* grass, 327
Nyssa biflora, 345, 353
Onoclea, 437; *sensibilis*, 437
Ophioglossum, 437; *vulgatum* var. *pseudopodum*, 437
Oplismenus, 229; *compositus*, 223; *undulatifolius*, 223
Orobanche, 168, 169
Oryza sativa, 30
Osmunda, 437; *cinnamomea*, 437; *claytoniana*, 437; *regalis* var. *spectabilis*, 437
Ostrya virginiana, 136, 209
Panicum, 228; *Boscii*, 173; *capillare*, 439; *millegrana*, 228; *olivaceum*, 222; *pectinatum*, 228; *sphaerocarpon*, 222; *virgatum*, 439
Pappophorum mucronulatum, 229; *vaginatum*, 229
Parmelia conspersa, 218, 219; *conspersa-stenophylla*, 218; *isidiata*, 218, 219; *stenophylla*, 218, 219
PATTEN JR., BERNARD C.: Notes on the biology of *Myriophyllum spicatum* L. in a New Jersey lake, 5
Pelargonium, 362
Pellaea, 438; *atropurpurea*, 438
Penicillium, 93, 94, 102, 103, 104; *chrysogenum*, 30, 31, 32, 33, 93, 94, 95, 96, 99, 100, 101, 102, 103, 104; *crustaceum*, 93, 102; *cyclopeum*, 93, 102; *digitatum*, 93, 102; *italicum*, 93, 102; *notatum*, 30, 32, 33, 34, 93, 94, 102, 103, 104; *vermiculatum*, 93, 102
Pennisetum, 224, 229; *typhoideum*, 154
Peperomia, 300, 304; *cilifolia*, 303; **disticha**, 301, **302**; **falcata, 300,** 301; **namosiana, 302**; *parhamii*, 303, 304; *parhamii* var. **glabra, 304**; **purpurinodis, 301, 303**; *vitiana*, 304
Perca flavescens, 9
Perotis indica, 230
Phakopsora, 222, 223; *apoda*, 224; *incompleta*, 222; **loudetiae, 223; oplismeni, 223; setariae, 223**
PHINNEY, HARRY K.: (Review), 239
Phleum, 336; *pratense*, 264
Phoradendron florescens, 78
Phragmidiella, 224; **ugandana**, 224
Phyllonoma ruscifolia, 338, 339, 341

Physoderma, 292, 293, 294, 295, 296, 297, 298; *alfalfae*, 294, 295; *claytoniana*, 296; *comari*, 297, 298; *didermoides*, 298; *hemisphaericum*, 297; *hydrocotylidis*, **notosciadii**, **294**, 297, *pluriannulata*, 293, 297; *raysii*, 297; *trifolii*, 295; *vagabunda*, 295, *vagans*, 297
Platanus occidentalis, 209, 383
Pleospora Gaeumannii, 408, 409
Pleurastrum, 142, 146, 147; *paucicellulare*, 142, **143**
Pleurococcus, 142
Poa compressa, 264
Podospora anserina, 47, 58, 59
Polygala, 19, 25, 26; *abyssinica*, 19, 20, 22, 24, 25; *chinensis*, 19, 20, 21, 22, 24; *persicariaefolia*, 19, 20, 21, 22, 23, 24; *triphylla*, 19, 20, 21, 22, 24; var. *glaucescens*, 19
Polygonatum biflorum, 173
Polypodium, 438; *virginianum*, 438
Polyporus cinnabarinus, 136, 137, 138, 139; *sanguineus*, 136, 137, 138, 139
Polystichum, 438; *acrostichoides*, 438
Populus deltoides, 209
Potentilla, 113, 114, 119, 122, 125, 126, 129, 130, 132, 298; *argentea*, 264; *chamissonis*, 113, 116, 117, 119, 121, 124, 125, 126, 131, 132, 134; *crantzii*, 113, 116, 131; *hyparctica*, 113, 114, 116, 119, 120, 124, 126, 130, 131, 132, 133, 134; *nivea*, 113, 114, 116, 131, 132, 134; *palustre* var. *parviflora*, 297; *pulchella*, 113, 114, 132, 134; *rubricaulis*, 113, 114, 125, 131, 132, 133; *uniflora*, 116; *vahliana*, 113, 114, 115, 116, 118, 119, 124, 125, 126, 131, 132, 133, 134
Potentillae of high latitudes and altitudes. II. Central Baffin Island populations, 113
POTZGER, JOHN E. (Obituary), 76
PRESCOTT, G. W.: How to know the freshwater algae (Review), 311
Pre-settlement forests in three counties of Missouri, composition of, 207
Proceedings of the club, 307, 386
Protoderma, 143
Prunus, 209
Pseudodendrocloniopsis, 148, 149; botryoides, 142, 143
Pseudodendroclonium, 142; *basiliense* var. *Brandii*, 143
Pseudoplea Gaeumannii, 405, 408, 409
Pseudopleurococcus, 142, 146; *Printzii*, 143
Pteridium, 438; *aquilinum*, 264, 438; *aquilinum* var. *latiusculum*, 173
Pterocarpus lucens, 283
Puccinia, 226; *aegopoponis*, 230; *andropogon-hirti*, 227; *arthurii*, 229; **bewsiae**, 224, **226**; **cissi**, 224, **226**; *cryptandri*, 229; *entrerriana*, 231; *digna*, 231; *erythraeensis*, 227; *eucomi*, 227; *flaccida*, 228; *gymnotrichis*, 229; **hyparrheniae**, 224, **226**; **hyparrheniicola**, **227**, 230; *kawandensis*, 229; *levigata*, 228; *levis*, 228; *loudetiae*, 227; **loudetiae-superbae**, 224, **227**; **millegranae**, 224, **228**; *nasellae*, 231; *negrensis*, 228; **nyasaensis**, 224, **228**; **nyasalandica**, 224, 228; *opipara*, 229; *orientalis*, 228; *pangasinensis*, 228; **pappophori**, **229**, 230; **perotidis**, 224, **229**; *pogonarthriae*, 226; *puttemansii*, 228; **saltensis**, 230, **231**; *simulans*, 229; *taiwaniana*, 228; *tristachyae*, 227
Pyrus, 209
Pythium acanthicum, 196, 198; *anandrum*, 196; *debaryanum*, 196, 204, 205; *mamillatum*, 196, 198, 199, 200, 201, 202; *ultimum*, 196, 198, 204
Quercus, 208, 209, 210, 215, 439; *alba*, 78, 208, 209, 210, 215, 383, 439; *bicolor*, 209, 382, 383, 384; *borealis*, 439; *coccinea*, 439; *falcata*, 209; *heterophylla*, 171, 172; *ilicifolia*, 439; *imbricaria*, 209; *lyrata*, 209; *macrocarpa*, 208, 209, 210, 215; *marilandica*, 78, 208, 209, 211, 215, 439; *nigra*, 209; *palustris*, 78, 209, 383, 439; *phellos*, 78, 171; *prinus*, 78, 439; *rubra*, 78, 171, 209; *Rudkini*, 78; *stellata*, 208, 209, 211, 215, 439; *velutina*, 78, 209, 439
Radiographing surfaces of leaves, 289
RAHN, JOAN ELMA: A study of the three-dimensional configurations of sporogenous cells in the anthers of *Trillium erectum* L. with special reference to the geometrical aspects of cell shape, 355
Ranunculus, 415, 416; *californicus*, 416; *occidentalis*, 416, 419; *pusillus*, 295, 416
REEDER, JOHN R.: The embryo of *Jouvea pilosa* as further evidence for the foliar nature of the coleoptile, 1
Rhus copallina, 172; *glabra*, 172; *radicans*, 264
RICE, M. A.: Garden spice and wild herbs (Review), 82
RICHARDS, ALBERT G.: A liquid mold technic for radiographing surfaces of leaves, 289
RICKER, P. L.: (Review), 82
RICKETT, H. W.: (Review), 82; Materials for a dictionary of botanical terms—IV. Apices, 342; (Review), 442

Rockland County, New York, An annotated preliminary catalogue of the vascular flora of, 435
Roripa islandica var. *hispira*, 297
Rosa carolina, 172
Ross-Craig, Stella: Drawings of British plants, Part VIII. Rosaceae (1) (Review), 82; Drawings of British plants. Part IX. Rosaceae (2) (Review), 442
Routien, John B.: A new species of *Muellerella* and its development, 403
Roystonea, 306
Rumex acetosella, 196
Sachet, Marie-Hélène: (Review), 80
St. John, Harold: A comment on the generic names of *Lysichiton* and Lysichitum, 151
Salix humilis, 172, 209; *nigra*, 383
Sanicula canadensis, 172, 293; *gregaria*, 172; *marilandica*, 172
Sansevieria, 283
Sarmentogeniferous variety of *Strophanthus sarmentous*, 281
Sassafras, 78; *albidum*, 209
Satureja vulgaris, 264
Saugetia fascicularis, 306
Schatz, Albert: Spectrophotometric studies of *Polyporus cinnabarinus* and *Polyporus sanguineus*, 136
Schatz, Vivian: Spectrophotometric studies of *Polyporus cinnabarinus* and *Polyporus sanguineus*, 136
Schismus arabicus, 336
Selaginella, 436; *apoda*, 436
Seriocarpus asteroides, 173
Setaria aequalis, 224; *lancea*, 224; *sphacelata*, 224
Shaver, Jesse M.: Ferns of Tennessee: with the fern allies excluded (Review), 389
Shoemaker, James S.: Practical horticulture (Review), 173
Sieglingia decumbens, 336
Sinnott, E. W.: A laboratory manual for general botany (Review), 390
Small, John A.: (Review), 389, 390, 442
Smilacina racemosa, 173
Smilax glauca, 172
Snowdenia polystachya, 232
Solidago odora, 173
Sordaria fimicola, 59
Sorghastrum nutans, 173
Sorghum, 190, 433, 434; *australiense*, 190; *leiocladum*, 190; *plumosum*, 190
Spartina, 327, 330, 332, 333, 334; *alterniflora*, 327, 332, 333
Spectrophotometric studies of *Polyporus cinnabarinus* and *Polyporus sanguineus*, 136
Sphenopholis, 336; *filiformis*, 335; *intermedia*, 335; *obtusata*, 335
Spirodela polyrrhize, 427.
Sporobolus, 229, 232; *berteronianus*, 232; *cryptandous*, 439; *fimicola*, 409
Sporobolus cryptandrus A Gray in the New Jersey Pine Barrens, 439
Stauffer, J. F.: Cytological studies on *Penicillium chrysogenum* Thom., 93
Steiner, Erich E.: Studies in Potentillae of high latitudes and altitudes. II. Central Baffin Island populations, 113
Stigeoclonium, 142, 143, 144, 145, 146, 147, 149
Stipa, 231
Stork, Harvey E.: Epiphyllous flowers, 338
Streptochaeta, 1, 2, 4; *spicata*, 1, 3
Striga, 154, 155, 157, 163, 167, 168, 169; *densiflora*, 154; *eupharasioides*, 154, 155, 158, 162, 165, 168; *gesnerioides*, 155; *lutea*, 154; *orobanchoides*, 154, 158, 160, 162, 165, 168
Strophanthus, 284; *amboensis*, 284; *Courmonti*, 284; *Gerrardii*, 284; *hispidus*, 286; *intermedius*, 284; *laurifolius*, 286; *sarmentosus*, 281, 282, 283, 284, 286, 287; *sarmentosus* forma *senegambiae*, 281, var. *major*, 284; var. *sarmentosus*, 281; var. **senegambiae**, 281, 282, 283, 284, 285; *Senengambiae*, 281; var. *sarmentogenifera*, 281, *Welwitchii*, 283
Strophostyles helvola, 173
Synchytrium, 292, 293, 294, 296, 298, 415, 417, 418, 419, 420, *andinum*, 416; *anomalum*, 416; *fulgens*, 420; *ligusticii*, 292; *marginale*, 417, 418, 419; **parksii 416, 417,** 419; *parthenocissi*, 293; *pluriannulatum*, 293; *ranunculi*, 295, 416, 420; **variabilum**, 415, 416, 419
Synchytrium, New and unidentified species, of, II., 415
Tacca involucrata, 283
Tapura capitulifera, 338, 339
Taylor, Norman: Field book of American wild flowers (Review), 81
Teskey, Benjamin J. E.: Practical Horticulture (Review), 173
Tetraspora, 146
Teucrium, 172; *canadense*, 172
Tharp, B.C.: *Commelinantia* (*Commelineae*): An evaluation of its generic status, 107
Thuja occidentalis, 264

Tiagi, B. A.: A contribution to the embryology of *Striga orobanchoides* Benth. and *Striga euphrasioides* Benth., 154
Tilia americana, 209, 210, 215, 383
Tinantia, 107, 108, 110, 111; *fugax*, 111
Three new North American varieties of *Krobesia*, 193
Torrey, John G.: Plants in action: A laboratory manual of plant physiology (Review), 442
Torreya, 72, 171, 234, 305, 382, 435
Tradescantia anomala, 107, 108
Trapa natans, 11
Trelawny Gilbert S.: Spectrophotometric studies of *Polyporus cinnabarinus* and *Polyporus sanguineus*, 136
Tribonema, 141
Tricalysia coffeoides, 283
Trichilia, 224
Trichoneura, 232
Trifolium, 415, 417, 418, 419; *carolinianum*, 418; *dichotomum*, 417, 418, 419; *incarnatum*, 295; *involucratum*, 418, 419; *microdon*, 417, 419; *montanum*, 295; *pratense*, 295; *repens*, 295; *resupinatum* 295
Trillium, 361, 362, 363, 370, 374, 375; *erectum*, 355, 356, 358, 374; *sessile*, 410, 411, 412, 413, 414
Trillium sessile: Influences of various buffer salts upon the rate of mitosis in root tips of, 410
Triosteum perfoliatum, 173
Triphragmium (*Puccinia*) *graminicola*, 228
Tripogon, 232
Trisetum, 336; *bifidum*, 335; *canescens*, 335; *cernuum*, 335; *flavescens*, 335; *melicoides*, 335; *spicatum*, 335; *subalpestre*, 335; *wolfii*, 335
Trollius laxus, 385
Tropical rusts, descriptions of,-VIII, 221
Ulmus alata, 209; *americana*, 215, 383; *rubra*, 209
Ulothrix, 141, 142, 143, 144, 146, 147, 148, 149; *bacillaris*, 143, 146, 147, 148; *flaccida*, 148; *subtilis*, 147, 148; *subtilissima*, 147; *tenerrima*, 147
Uniola, 3, 4
Uredo oplismeni, 223
Uromyces aegopogonis, 232; *dactyloctenii*, 232; *fuegianus*, 231; *ignobilis*, *kenyensis*, 232; *leptodermus*, 232; *microchloae*, 232; *minimus*, 232; *pencanus*, 231; snowdeniae, 230, 231; *sporoboli*, 231; sporoboloides, 230, 232; *tenuicutis*, 232; *trichoneurae*, 232; *wellingtonica*, 232
Uronema, 147
Urophylyctis, 293; *notosciadii*, 294; *pluriannulatus*, 293
Uropyxis, 233; *wiehei*, 230, 232
Ustilago Hordei, 58, 59
Venkatesh, C. S.: The special mode of dehiscence of anthers of *Polygala* and its significance in autogamy, 19
Veratrum, 264
Vibernum acerfolium, 78; *dentatum*, 78; *prunifolium*, 78
Viola, 354; *odorata*, 345
Wagner, Robert P.: Genetics and metabolism (Review), 81
Wagner, Jr., Warren H.: The morphological and cytological distinctness of *Botrychium mingánense* and *B. lunaria* in Michigan, 261
Ward, W. T.: (Review), 312
Wardlaw, C. W.: Embryogenesis in plants (Review), 239
Weeds of North Central States (Review), 311
Wells, Harrington: General biology (Review), 312
Wells, Patrick: General biology (Review), 312
Wherry T.: The genus *Phlox* (Review), 237
Whitaker, Thomas W.: *Cucurbita mixta*, Pang. Its classification and relationship, 253
Wilson, K. S.: A laboratory manual for general botany (Review), 390
Witkus, E. R.: The cytology of *Xanthisma texanum* D. C. IV. Megasporogenesis and embryo sac formation, pollen mitosis and embryo formation, 428
Woodsia, 437; *obtusa*, 437
Woodwardia, 438; *areolata*, 438; *virginica*, 438
Wylie, A. P.: Chromosome atlas of flowering plants (Review), 440
Xanthisma, 433; *texanum*, 308, 428, 429, 431, 434
Xanthisma texanum, The cytology of. IV. Megasporogenesis and embryo sac formation, pollen mitosis and embryo formation, 428
Xenodochus, 224
Ximenia americana, 283
Yuncker, T. G.: Additions to the Fijian species of Peperomia, 300
Zea mays, 30
Zoospores from germinating oospores of *Pythium mamillatum* Meurs, 196